

TECATRON PPS CM black (XP83) - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPS (Polyphenylsulfide)

Colour

black opaque

Density

1.41 g/cm³

Fillers

carbon fibres, graphite, PTFE

production process: compression moulding

Main features

high dimensional stability
 good chemical resistance
 high creep resistance
 good heat deflection temperature
 resistance against high energy radiation
 high stiffness
 high strength

Target Industries

oil and gas industry

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)		950,000	psi	ASTM D 638	(1) ASTM D-732
Tensile strength at break		3,600	psi	ASTM D 638	
Elongation at break (tensile test)		0.45	%	ASTM D 638	
Flexural strength		5,000	psi	ASTM D 790	
Modulus of elasticity (flexural test)		825,000	psi	ASTM D 790	
Compression strength	@ 10%	11,800	psi	ASTM D 695	
Compression strength	@ 1%	6,100	psi	ASTM D 695	
Compression modulus	Secant @ 0.5%	700,000	psi	ASTM D 695	
Compression modulus		550,000	psi	ASTM D 695	
Shore hardness	Shore D	83		ASTM D 2240	
Shear strength		3,800	psi	*** new ***	1)
Thermal properties	parameter	value	unit	norm	comment
Deflection temperature		399	°F	ASTM D 648	
Thermal expansion (CLTE)	> Tg	77.30 x 10 ⁻⁶	°F	ASTM D 696	
Thermal expansion (CLTE)	< Tg	22.40 x 10 ⁻⁶	°F	ASTM D 696	
Thermal conductivity		3.61	BTU-in/hr-ft ² -°F	ASTM C 177	

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